AUG 2 5 2003 W

Title: DSP-4 DUAL-SPECIFICITY PHOSPHATASE

Express Mail No. EV336597929US

Inventor(s): Ralf M. Luche and Bo Wei Serial No. 09/544,517 Docket No. 200125.410

DSP4, ENCODED BY 651 BASE PAIRS

Fig. 1

TRANSLATED, 217 AMINO ACIDS

MYSLNQEIKAFSRNNLRKQCTRVTTLTGKKIIETWKDARIHVVEEVEPSSGGGCGYVQDLSSDLQVGVIKPWL LLGSQDAAHDLDTLKKNKVTHILNVAYGVENAFLSDFTYKSISILDLPETNILSYFPECFEFIEEAKRKDGVV LVHCNAGVSRAAAIVIGFLMNSEQTSFTSAFSLVKNARPSICPNSGFMEQLRTYQEGKESNKCDRIQENSS

Fig. 2

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100		
	PEAI PEAI DKSI QFAI NEAI NEAI PECFI	
o -	LSQFF LSQFF ISSWF ISSWF ISSWF ISSHF ILSYF ISS f	
	AWSQN HWSQN VYCEK VQMVE VHKAD VHKAD SHTAD	
e -	PISDI PVEDI PVEDI PVEDI SILDI PI D	
w	KYKQI TYKQI HYKSI HYKSI QYKCI QYKCI HYKWI TYKSI	
o -	SOLDRD-PNSATDSDGSPLSNSQPSFPV-EILPFLYLGCAKDSTNLDVLÉFFGIKYILNÝTPNLPNLFENAGEFKYKQIPÍSDWASQNLŠQFFPEAISFI DRELPSSATESDGSPVPSSQPAFPV-QILPYLYLGCAKDSTNLDVLGKYGIKYILNVTPNLPNAFEHGGEFTYKQIPÍSDWASQNLSQFFPEAISFI GLCEGKPAALLPMSLSQPCLPVPSVGLTRILPHLYLGSQKDVLNKDLWTQNGISYVLNASNSCPKP-DFICESRFMRVPINDNYCEKLLPWLDKSIEFI PAQALPPAGAENSNSDPRVPIYDQGGPVEILPYLYLGSQKDVLNKDLWTQNGITAVLNVSASCPNHFEGLFHYKSIPVEDNHKADISSWFNEAIDFI PLSTSVPDSAESGCSSCSTPLYDQGGPVEILPFLYLGSAYHASRKDMLDALGITALLNVSANCPNHFEGHYQYKSIPVEDNHKADISSWFNEAIDFI PVPPSATEPLDLGCSSCGTPLHDQGGPVEILPFLYLGSAYHASRCDMLDALGITALLNVSRRTSEACHTHLHYKWIPVEDSHTADISSHFQEAIDFI SERALISQCGKPVVNVSYRPAYDQGGPVEILPFLYLGSAYHASKCFFLANLHITALLNVSRRTSEACHTHLHYKWIPVEDSHTADISSHFQEAIDFI VVVEEVEPSSGGGCGYVQDLSSDLQVGVIKPWLLLGSQDAAHDLDTLKKNKYTHILNVAYGVENAFLSDFTYKSISILDLPETNILSYFPECFEFI P S q g ITP LyLGs a 1# \$ g!t LNws pn f f %k !p! D iss f eai FI	
7	NLFEI NAFEI KP-DI NHFE- NHFE- NAFE- NAFE- NAFE- NAFL-	
	TPNLF TPNLF SNSCP SASCP SANCP	
09	LINV TILNV TILNV TILNV TILNV TILNV	
	FGIK) (YGIK) (NGIS) (NGIT) (CGIT) (CGIT) (LGIT) (LHIT) (NKVT) (GIT)	
55	DVLÉE DVLGK DVLGK DLWTQ DGLQA DGLQA DMLDA DMLDA DTLKK	
	SSTNL SSTNL SSDL SSDL SSDL SSCR SSCR SSCR SSCR SSCR SSCR SSCR SSC	
8 -	GCAKI GCAKI GSQKI GSAYH GSAYH GSAYH GSAYH GSAYH GSQDA	
	PFLYL WLLLU PFLYL PFLY PFLY	
e -	VEILE	
	PSFPV PAFPV PSVGL DQGGP DQGGP DQGGP QQGGP	
20	SNSQ PSSQ CLPVI WPIYI TPLLH RPAYI LSSDI	
	DGSPLSNS DGSPVPSS SLSQPCLP NSDPRVPI CSSCGTPL CSSCGTPL CSSCGTPL SSVQDLSS	
19 	SATDS SATES SALLPM ALLPM SAESG SAESG CGKPV SGGGC	
	CD-PN (ELPS) (GKPA) (GKPA) (LIPPA) (SATE) (LISQ) (VEPS)	
	SDLDF DF GLCE PAQA PLST PVPP SERA HVVEE	
	PYST1. MKP-7. hVH5 PAC1 MKP-1. MKP-4. MKP-5. DSP-4	
	PYST1. MKP-7, hVH5 PAC1 MKP-1, MKP-4, MKP-5, DSP-4 Consensus	
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170 175	DEARGKNCGVLVHCLAGISRSVTVTVAYLMQKLNLSMNDAYDIVKMKKSNISPNFNFMGQLLDFERTLGLSS DEARSKKCGVLVHCLAGISRSVTVTVAYLMQKLNLSMNDAYDIVKMKKSNISPNFNFMGQLLDFERTLGLSS DEARSKKCGVLVHCLAGISRSVTVTVAYLMQKMNLSLNDAYDFVKRKKSNISPNFNFMGQLLDFERTLGLSS DKAKLSSCQVIVHCLAGISRSATIATAYIMKTMGMSSDDAYRFVKDRRFSISPNFNFLGQLLQFEYERTLKLLA DSVKNSGGRVLVHCQAGISRSATICLAYLIQSHRVRLDEAFDFVKQRRGVISPNFSFMGQLLQFESQVLAPH DSIKNAGGRVFVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVLATS DCVREKGGKVLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVLATS DCVREKGGKVLVHCAGISRSPTICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVLATS # ak k g VIVHC AGISRSATI a%ln s A% fik r ispnf f\$q0 1 v#
160	······
150	VKMKKSNISP VKRKKSNISP VKDRRFSISP VKQRRSIISP VKQRRSIISP VKQRRSIISP VKQRRSIISP VKNARPSICP
140	 NLSMNDAYDF NLSLNDAYDF IGMSSDDAYRF IRVRLDEAFEF RVRLEEAFEF GPRLKEAFDY QTSFTSAFSL S A% f
130	VTVAYLMQKM VTVAYLMQKM IATAYIMKTM ICLAYLMRTN ICLAYLMRKK ICLAYLMKKK ICLAYLMKKK ICMAYLMKKK ICMAYLMKKK IVIGFLMNSE
120	ICLAGISRSVT ICLAGISRSVT ICLAGISRSAT ICLAGISRSAT CQAGISRSAT CQAGISRSPT CEAGISRSPT CRAGISRSPT CNAGVSRAAA
110	PYST1, DEARGKNCGVLVHCLAGISRSVTVTVAYLMQKLNLSMNDAYDIVKNKKSNISPNFNFMGQLLDFERTLGLSS MKP-7, DEARGKNCGVLVHCLAGISRSVTVTVAYLMQKMNLSLNDAYDFVKRKKSNISPNFNFMGQLLDFERTLGLSS hVH5 DKAKLSSCQVIVHCLAGISRSATIATAYIMKTMGMSSDAYRFVKDRRPSISPNFNFLGQLLEYERTLKLLA PAC1 DSVKNSGGRVLVHCQAGISRSATICLAYLIQSHRVRLDEAFDFVKQRRGVISPNFSFMGQLLQLETQVLCH MKP-1, DSIKNAGGRVFVHCQAGISRSATICLAYLMRTNRVKLDEAFEFVKQRRSIISPNFSFMGQLLQFESQVLAPH MKP-4, DAVKDCRGRVLVHCQAGISRSATICLAYLMMKKRVRLEEAFEFVKQRRSIISPNFSFMGQLLQFESQVLATS MKP-5, DCVREKGGKVLVHCGAGISRSPTICLAYLMMKTKQFRLKEAFDYIKQRRSMVSPNFGFMGQLLQFESQVLATS DSP-4 EEAKRXDGVVLVHCNAGVSRAAAIVIGFLMNSEQTSFTSAFSLVKNARPSICPNSGFMEQLRTYQEGKESNKC Consensus # ak k g V1VHC AG!SRsat! a%1n s A% f!K rr !SPNf F\$q0!1 v#
101	PYST1, DF MKP-7, DF hVH5 DK PAC1 DS MKP-1, DS MKP-5, DC DSP-4 EE
	PYS MKP MKP MKP DSF

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= Periph. Blood

PB

= Pancreas

Lung

|| |-|-

• Ki = Kidney

Placenta

11

급

Brain

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8

Li = Liver

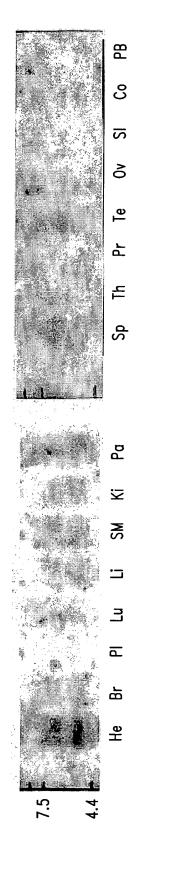
= Heart

He

Co = Colon

DSP-4

Northern blot analysis



Small Intestine

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• Ov = Ovaries